



LONG LAKE CREEK SUBWATERSHED ASSESSMENT

PARTNERING FOR CLEAN WATER

Five lakes in the Long Lake Creek Subwatershed are on the State's Impaired Waters List for excess nutrients - Holy Name, School, Wolsfeld, Long, and Tanager Lakes. A state-led study in 2014 identified the potential nutrient sources, including stormwater runoff, internal sediment release, carp sediment resuspension. Because of these impairments, a group of local partners, including the Cities of Medina, Long Lake, and Orono, Long Lake Waters Association (LLWA), and Minnehaha Creek Watershed District (MCWD), have been working together to develop a holistic plan to restore water quality and ecological health in these five lakes.

CREATING A ROADMAP

In order to cost-effectively address these impairments, additional data was needed to enhance our understanding of the ecological and water quality issues in the Long Lake Creek Subwatershed. In 2017 and 2018, MCWD collected additional water quality data while Long Lake, Medina, and LLWA partnered to collect data on invasive common carp. In 2019, MCWD took on the role of convening the partnership and acting as the technical and planning lead to lay the groundwork for successful implementation by the partners.

These recent efforts provided the catalyst to obtain a \$112,000 grant from the Minnesota Board of Soil and Water Resources to analyze the data and develop a plan to guide the implementation of water quality improvement projects in the subwatershed.

The subwatershed assessment will provide the partners with an implementation roadmap to begin addressing issues in the five impaired lakes. The plan will provide clear, actionable steps partners can take to meet state water quality standards in the subwatershed and will help increase the likelihood that partners will secure grant funding for future implementation efforts. Ultimately, this will improve water quality and ecological health across the subwatershed, creating value and enjoyment for residents.



MINNEHAHA CREEK
WATERSHED DISTRICT



CITY OF
LONG LAKE

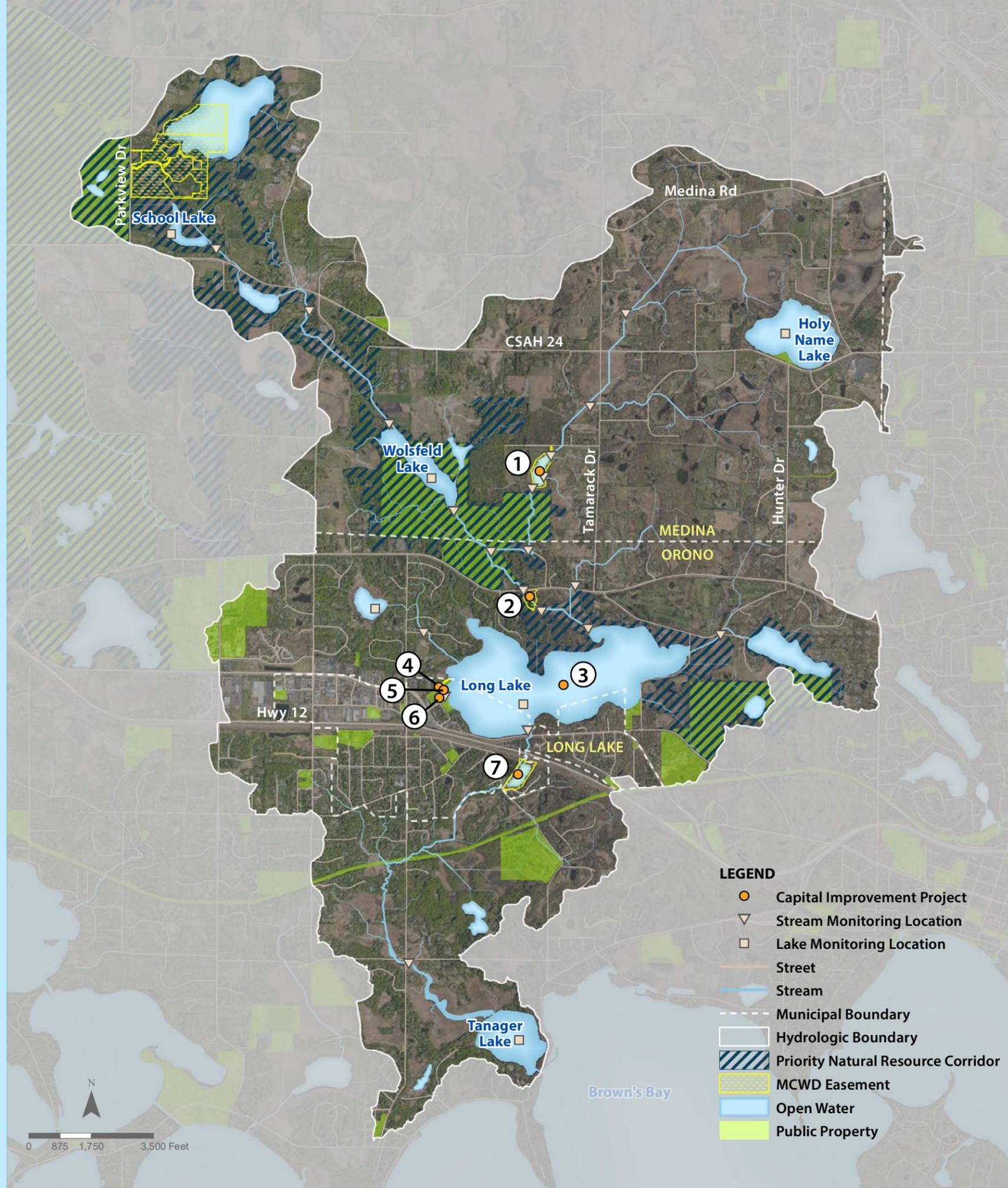


MEDINA



CHARACTERISTICS OF LONG LAKE CREEK SUBWATERSHED

- Includes parts of the Cities of Long Lake, Medina, Orono, and Plymouth
- Subwatershed drains to Lake Minnetonka's Tanager Lake and Brown's Bay
- Nutrient impaired lakes: School, Wolsfeld, Holy Name, Long, and Tanager Lakes
- A 46% reduction in phosphorus in stormwater runoff from the entire subwatershed is needed for impaired lakes to meet state water quality standards
- A 73% reduction in internal phosphorus loading in the lakes is needed to meet state water quality standards
- Upstream lakes and stormwater runoff provide 77% of the nutrients that flow to Tanager Lake
- The primary stream, Long Lake Creek, is not listed as impaired, but has a high level of phosphorus
- 22% of the subwatershed is wetlands
- Lake aquatic plant biodiversity is poor or degraded
- There are five aquatic invasive species present in the subwatershed
- Several corridors of minimally disrupted land within the watershed have been identified by Hennepin County and the Metropolitan Council as important conservation corridors



PAST PROJECTS AND ECOLOGICAL BENEFITS

- **Project 1 - 2:** Construction of regional stormwater ponds in 1996 to remove excess nutrients and sediment before water flows into Long Lake
- **Project 3:** Alum treatment of Long Lake in 1996 to reduce the amount of phosphorus being released from the lake sediment
- **Project 4 and 6:** Enhancement of existing stormwater ponds in Long Lake Park in 1998 to reduce the amount of nutrients and sediment flowing into Long Lake
- **Project 5:** Restoration of shoreland vegetation along Long Lake's western shore in Long Lake Park in 1999
- **Project 7:** Restoration of a former wastewater treatment pond into a healthy wetland in 2015, including removing excess sediment and creating a new stream channel for Long Lake Creek that connected it to the wetland

PAST STUDIES

- In 2011, MCWD completed a study that identified a suite of potential projects in the southern portion of the subwatershed, from Long Lake to Tanager Lake
- Carp assessment in 2018 by Long Lake Waters Association determined common carp were a driver of poor water quality in Long Lake

These past projects and studies are being incorporated into the current assessment to give us a comprehensive understanding of the system and opportunities for improvement.



WATERSHED-WIDE ASSESSMENT

The purpose of the Long Lake Creek Subwatershed Assessment is to identify specific issues causing poor water quality, which will allow partners to develop management options to help guide partners to improve water quality conditions.

There are three parts to MCWD's approach:

- 1. Understand resource needs:**
 - Characterize sources of excess nutrients to impaired lakes
 - Assess carp abundance, carp movement, and carp reproduction locations in the Long Lake Creek Subwatershed.
 - Identify cost-effective watershed and in-lake strategies to meet state water quality standards.
- 2. Understand land use plans:** Work with the partners to understand plans for future land use change and identify opportunities to integrate water quality improvements.
- 3. Develop a roadmap:**
 - Combine technical strategies and land use plans to create a roadmap that includes suggested projects and strategies, costs and benefits, partner roles, and funding sources for implementing water quality improvement projects to achieve the highest impact.

APR. 2019 - OCT. 2019

Understand resource needs



Carp, watershed, and wetland assessment



OCT. 2019 - MAR. 2020

Integrate plans for land use change to identify opportunities



JAN. 2020 - JUL. 2020

Develop an implementation roadmap of strategies and action steps



CONTACT

Learn more at www.minnehahacreek.org/long-lake-creek-assessment. If you have questions, please contact Brian Beck, Research & Monitoring Program Manager, at 952-471-8306 or bbeck@minnehahacreek.org.